Monthly Report—May 2006

St. Charles Fire Department

Chief's Column by Chief Alan J. Schullo

History of Fire Engines

During the early 1800's, a revolution in firefighting technology took place with the development of the steam pumper in England. Steam was created by firing the boiler with coal. The power created was transferred to enable the unit to supply water to hoses. At first, volunteer firefighters strongly opposed the use of the steamer, as it was perceived as a threat to their existence. The steam pumper could supply a continuous stream of water more effectively and with far less manpower than hand pumpers.

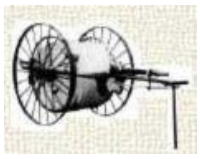
St. Charles Fire Department 1895 Steamer Engine

When steam pumpers were finally accepted into the American fire service, they were, for the most part, hand drawn by firefighters. The first use of horses took place in the 1850's and 1860's. This period coincided with the introduction of paid firefighters who were required to pull apparatus to the scene; consequently, these newly organized paid departments opted to use horses for this purpose. Lighter apparatus were pulled by two horses. Those that were heavier or that responded in hilly districts or in snow were pulled by three horses.

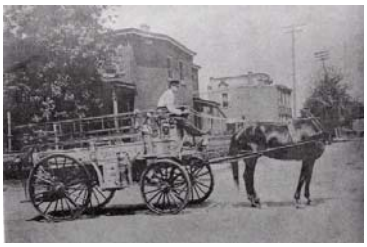
Another major change in fire apparatus design was a direct result of the establishment of paid departments. Early apparatus, because it was pulled to the scene by firefighters, had limited riding positions for personnel. There was never a reason for anyone to ride the apparatus -- all personnel were required to pull it. Firefighters in the early paid departments were still running to fires, even though horses were pulling the apparatus. And they were running farther because there were far fewer aid companies than there were volunteer companies that had been replaced. In short, by the time firefighters ran to the scene of many fires, they were already worn out and needed to rest before starting firefighting operations. This was obviously an unacceptable situation and within a few years, apparatus were retrofitted with running boards and back steps to accommodate on-duty firefighters.

Early St. Charles Fire Department

To provide a quick knockdown while steamers were being set up and hoselines stretched, as well as to extinguish small fires, the chemical unit was developed. These units carried tanks of bicarbonate of soda that, when activated by sulfuric acid, were expelled through small diameter rubber hose. Most were two-wheel units pulled by one horse, but four-wheel units were also used.



During the 1880's, development of cotton-jacketed hose that was capable of being packed flat instead of rubber hose on a reel allowed for a new design in hose tenders, the hose wagon. Prior to this, hose was carried on large reels mounted on two-wheel or four-wheel chassis. These new wagons were also equipped with deck pipes, carried other equipment and supplies, and provided better riding positions than the older hose reels. Most engine companies of this period responded



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From the Administration

The St. Charles Fire Department, under the authority of the Board of Fire and Police Commissioners, began the examination process for firefighter/paramedic during May. Asst. Chief Steve Fuller was the coordinator for the project and was responsible for scheduling the independent testing agency and procuring off-site test locations.

The process consists of a mandatory orientation, written examination, physical ability test, and oral interviews with the Board. This was the first time that Firefighter II certification and a paramedic's license were requirements for application. As a result only 65 applications were picked up compared to past processes where we saw as many as 400 applications go out. Out of the 65 applications taken, 43 were returned.

Four of the original applications received were denied as they did not meet the application requirements, leaving 39 to begin the testing process.

Another first was the mandatory orientation. This orientation allowed the Board and the officers to inform potential candidates what would be expected of a St. Charles Firefighter/ Paramedic. Out of the 39 applicants, two did not participate and as a result were stricken from the list of potential candidates.

The written examination was conducted on Saturday, May 13 for the 37 applicants remaining. The written examination consisted of 100 general knowledge questions and each candidate was given two hours to complete the test. Four applicants failed to show for the test and were stricken from the list. Six applicants failed to achieve a passing score and also were stricken from the list.

The physical ability test was conducted on Sunday, May 14 at Thompson Middle School. The physical ability test consisted of evolutions that test strength and endurance. Each candidate participated in the ladder hang, aerial ladder climb, 1/2 mile run, building maze, and rescue drag. Each event is timed with the exception of the ladder climb. Twenty-five applicants successfully completed this phase of the process.

The oral interviews will be conducted in June and July and we anticipate posting of the final eligibility roster by the end of July. This roster will be valid for a period of two years and will supply a list of candidates for potential hiring during that timeframe, then we would start the process again.

Fire Prevention By Asst. Chief David Mansfield

In May, 2006, the Fire Prevention Bureau was busy reviewing plans, conducting occupancy inspections, and attending plan submittal meetings.

Plan reviews completed included sprinkler plans for facilities such as the St. Charles Public Works Facility, LeRoy Oakes, Colonial Center, Batavia Enterprises, Glenwood School, 1400 Lincoln Highway, 1601 E. Main Street, Foundry Business Park, Legacy Business Park, 602 Sidwell Court, and 3487 Swenson Drive. Fire alarm plan reviews were completed for 451 Dunham Road, Campton Crossing, West Towne Market, 602 Sidwell Court, Randall Crossing, 2900 Foxfield Road, 228 W. Main Street and five separate plans for Legacy Business Park. Eighteen preliminary plans were reviewed, along with many revisions and tenant finishout plans. Kitchen suppression system plans reviewed in May: Royal Hawk Golf Club. New building plans reviewed in May: Kane County Jail preliminary plans, Glenwood School addition, five new buildings for Legacy Business Park, Mercedes Benz of St. Charles, Hazen Office Building, re-use and West Towne Market.

Along with the busy plan review schedule, off-site meetings were held with Kane County Building and Zoning regarding the new jail, Wickman Properties, the VFW, Legacy Business Park, the new Mercedes Benz dealership, and Bethlehem Lutheran Church. Chapter 34 reviews were completed for 612 W. Main Street, 6N592 Rt. 25, 216 S. 7th Avenue, and 604 S. 7th Ave.

Fire hydrant flow tests were performed for Prairie Lakes Subdivision with Wasco Sewer & Water.

Occupancy inspections continue with a total of 41 inspections completed.

The FPB reviewed and inspected the Post Prom festivals for St. Charles High Schools, both East and North.

Lt. Craig Hanson attended the Vehicle Fire Investigation Class held in Elgin.

From the Operations Division By Asst. Chief Scott Swanson

The month of May was busy for the St. Charles Fire Department with the firefighters responding to 426 incidents during the month, the second busiest month so far this year.

The month began slowly with a normal call volume and regular incidents types requiring the fire department's response. The most serious fire during the month occurred in the early morning hours of Wednesday, May 3rd. The fire department was dispatched for a house fire at 3N215 West Mary Lane. As first arriving Engine 103 approached the scene, the firefighters found a fire in a house under demolition and the large excavator/backhoe machine that was parked alongside. As additional fire companies began arriving on the scene, two hoselines were stretched to prevent the spread of the flames to the neighboring houses on either side of the fire. The hoses were then directed to battle the fire and extinguish the flames.

The fire was difficult to douse because it was fed by fuel leaking from the large machine that was also involved in the fire. The firefighters attacked the stubborn flames for more than an hour before they were able to completely extinguish the fire. The last fire company returned to quarters three hours after the initial dispatch, although fire investigators remained on the scene throughout the morning.

As May continued, the pace of daily incidents increased and concluded with several extremely active days during which the fire department responded to an exceptionally high number of incidents during those twenty-four hour periods.

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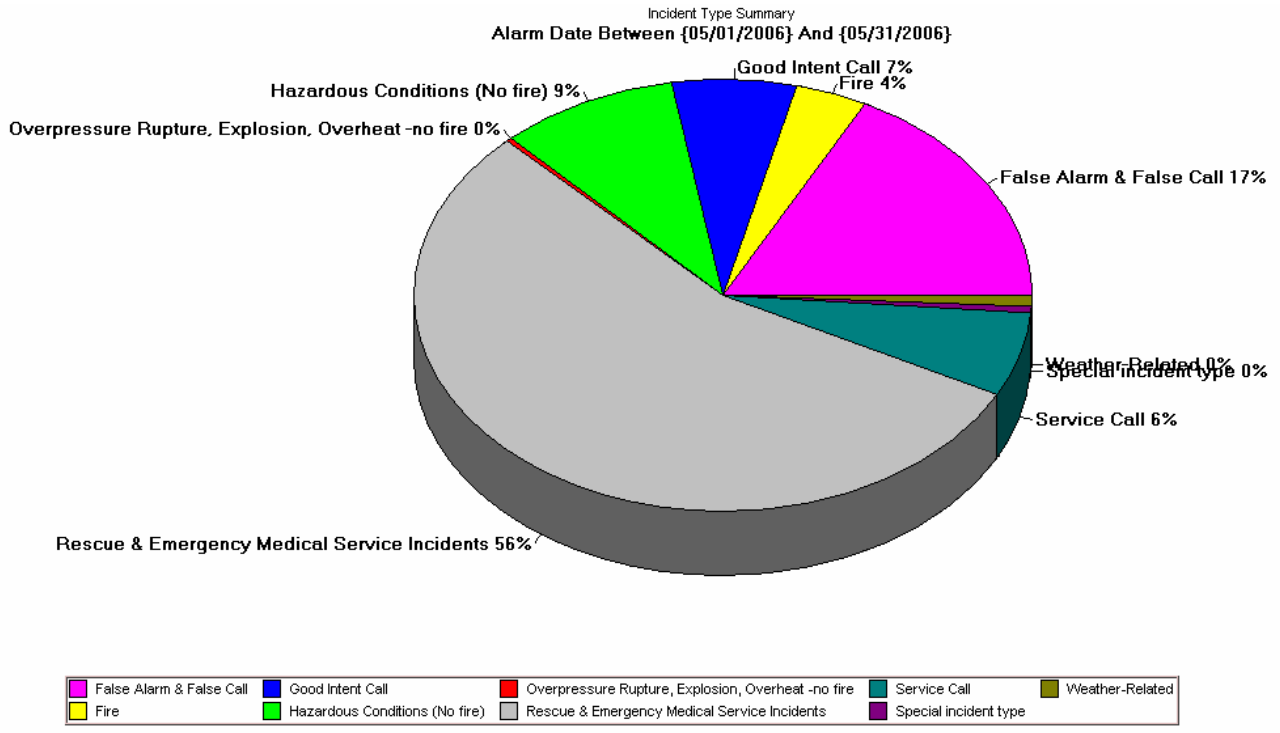
Incident Summary Report



From Support Services by Asst. Chief Steve Fuller

This month continued to be a productive month with another visit to the Seagrave Plant in Wisconsin for the purpose of picking up the new pumper. Lt. Swanson and I returned to the plant with the intentions of a follow up final inspection to assure that all specifications were met. After that, we were to return to St. Charles. Unfortunately we were not satisfied with the final product. As a result we waited for a reasonable amount of time for the discrepancies to be corrected. A primary concern was with the vehicle's response to acceleration and down shifting. Other issues with the paint on some of the doors caused a delay in leaving with the truck.

The Technicians had one bad thing after another happen, starting off with computer programming of the transmission. When a code was entered, to correct a down shifting function the computer shut down, and erased the present setting. Needless to say they had a hard time trying to contact the software company to correct their problems, especially with the start of Memorial Day weekend. The issues with the paint were going to take more time than we were willing to stay around for, so we agreed to terms for another trip at their expense to return at a later date for the pick up. We expect the engine to be in service in June.

Other items for the Month was the typical Preventative Service schedules to all vehicles due and the routine maintenance that is required every month.

EMA Notes By Derek Piec, EMA Coordinator

The month of May and beginning of June brought the first real taste of severe weather for this year. I would like to thank those who assisted on Memorial Day with the storms that brought downed tree limbs and power lines. EMA Members that assisted with these incidents were cited by the City Electric Department and received a "Safety Mugging." Safety of EMA and others has always been a priority for the organization.

EMA has served others within the last month by assisting with soccer games, crowd control, and traffic direction during the Riverfest – a good job to all those who have helped out.

EMA is in the process of overhauling our procedures for uniforms. The agency has sought out the services from another vendor due to lack of cooperation from the previous vendor. The Coordinator has also appointed Bob McCracken to be the quartermaster. Bob will track all uniform orders and EMA Personnel will need to go through Bob in order to obtain new uniforms and equipment. This decision was made by the Coordinator to have an accountability system for each individual's equipment and uniform needs.

The Coordinator has attended many classes within the last month to finish the Professional Development and Illinois Professional Emergency Manager Certification requirements for EMA Coordinators.

Last but not least, I would like to welcome back our intern Julie DeLong. Julie has worked hard at updating our SARA Title III - Tier II Reporting system and has assisted in processing the documentation for the City's Emergency Plan. She has been a great asset to our department. Good job Julie! Julie is an English major at Southern Illinois University, and has future plans to obtain her Masters Degree and Doctoral degree in English. Julie would like to teach English at the college level.

From the Operations Division, cont'd.

(Continued from page 3)

On Wednesday, May 24th the fire department responded to twenty-seven emergencies during the shift. This number incorporated a myriad of call types including emergency medical, fire alarm, accidents, smoke investigations, and structure fires. The number of calls could have been even greater as a thunderstorm moved through the area that evening. Luckily for our community, the most severe elements of the storm passed just south of the city and with the assistance of recalled personnel the fire department handled all incidents that occurred in a timely and efficient manner.

The department responded to twenty-one incidents during the shift on Saturday, May 27th. This is fifty percent greater than the fourteen incidents the department handles during an average day. The busiest day of the month was on Memorial Day. During that twenty-four hour shift the fire department responded and effectively handled thirty-three emergency incidents, in addition to participating in the annual Memorial Day Parade.

The most active period of that shift was in the afternoon when a strong thunderstorm moved through the area. In a one-hour period, beginning at 4:15 p.m., the fire department was dispatched to fourteen emergency calls. Even though this is equivalent to the number of incidents the department handles in a typical twenty-four hour period, with the essential assistance of off-duty personnel that were recalled to place additional apparatus into service as part of the department's operational plan, this high volume spike of emergency situations was capably handled to provide protection to the citizens we serve.

Quality Assurance Survey By Paramedic Robb Lumsden

22 responses were received back from 101 surveys sent for May. Total calls for the month equaled 233. Following are the questions included on the survey. They were scored 1—5, with 1 being poor and 5 being excellent. The overall average was 4.904.

Did the paramedics respond to your call in a prompt manner? **4.86**

Were the paramedic personnel courteous and respectful? **4.91**

Did the paramedics explain the medical treatment and procedures to you? **4.64**

Did the paramedics answer the questions and concerns you had? **4.68**

Do you feel the paramedic crew was knowledgeable of the procedures that they performed? **4.82**

Overall how would you rate the paramedics who treated you? **4.86**

Was the ambulance neat and clean? **4.86**

Were you satisfied with the medical treatment that you received? **4.82**

TRAINING BY CAPT. LEO VESELING

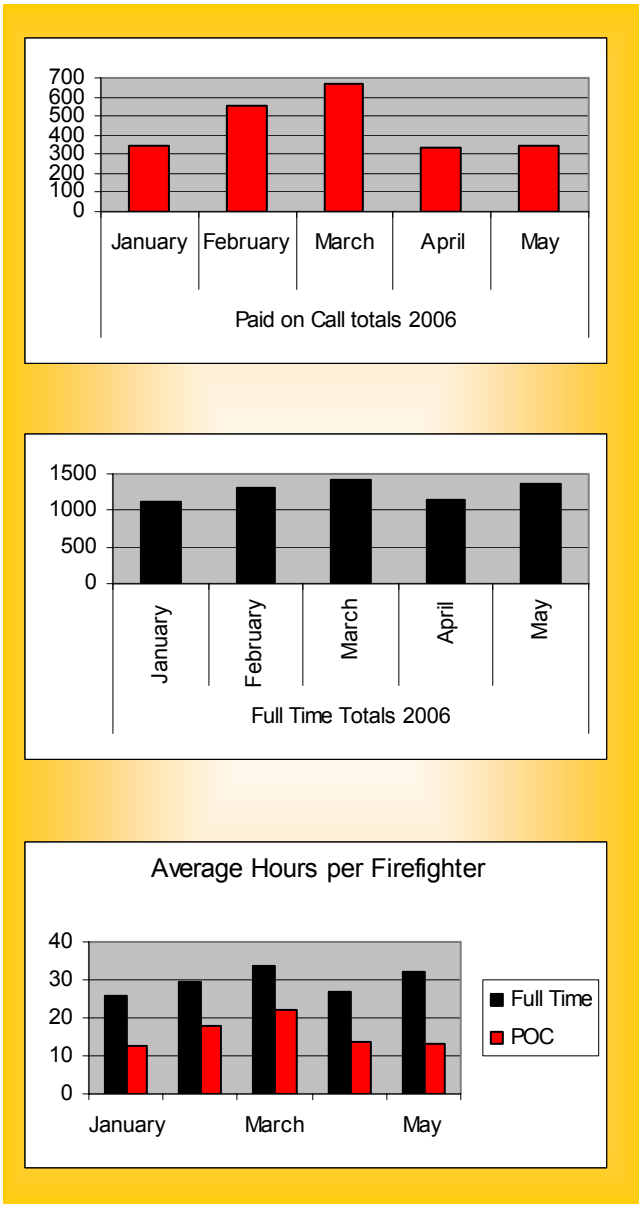
St. Charles Fire Department personnel continued to train during the month of May. Training hours for both Paid and Paid on Call personnel increased over the hours accumulated during April. Training was conducted in accordance with the requirements set forth by NFPA, OSHA, and the Office of the State Fire Marshal. As always, safety and education were the prime concerns governing all training evolutions.

The Paid on Call members of the department concentrated their training efforts in three primary drill topics. The first Paid on Call drill for the month was on aerial operations. This training included all aspects of the ladder truck equipment. Firefighters were instructed on the proper uses of the aerial truck including setting and adjusting the ladder main.

The second Paid on Call drill was on boat operation. Since the department maintains three different boats, firefighters must maintain competency with all of the boats and the proper care of each.

Thirdly, the Paid on Call members trained at Chad's Towing lot on various aspects of vehicle extrication. Firefighters used various extrication tools to stabilize a vehicle and remove trapped occupants.

As we can see in the graphs, the total Paid on Call training hours rose over the April mark. We can also see that the average number of training hours dropped slightly since April. The average of each firefighter's hours is actually more important than the total and therefore, shows us a need for improvement in the training time of each person.



Full time members of the Department trained on a daily basis while on their normal duty shifts. Several topics were covered in the daily training. The topics included, CPR/Blood born pathogens, Hose testing, Driver training, boat and underwater rescue, extrication, and water supply form hydrants.

All department personnel recertify in CPR and Blood borne pathogen awareness annually. The American Heart Association has changed the guidelines for CPR and all personnel had to learn and show proficiency with the new standards. Proficiency is shown through testing in all areas of CPR and obstructed airways.

Department members conducted the annual testing of fire hose. All fire hose was tested in accordance with the standards on hose construction and testing. In order to test the hose, each engine lead out all of its hose in lengths not to exceed three hundred feet. The hose was then tested, recorded, stamped, washed and re-bed. Each engine carries about three thousand feet of hose, thus making for a very long drill session.

Full time members of the department also practiced driving and backing skills with all of the vehicles used in our emergency services. This training included a driving course preset with various skill tests such as narrow clearance, backing, turning and stopping. Firefighters drove various engines, trucks, ambulances, and trailers through the course while stressing safety for both people and equipment.

TRAINING CONT'D.

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On duty firefighters also conducted boat training using the Zodiac boat. In addition to the boat training, members of the Underwater Rescue and Recovery team practiced search patterns in the Fox River. In a drowning incident, boat operators and divers must act together in order to conduct a safe operation.

Full time personnel conducted vehicle extrication training on shift. Chad's towing was kind enough to allow the department to train at their storage yard. Firefighters used various tools and equipment to stabilize and lift a vehicle before dismantling it with hand and hydraulic tools. This type of training is extremely valuable in that it generally involves a car that has already been damaged due to a vehicle accident. This leads to a more realistic scenario simulating what firefighters must deal with in actual emergency situations.

The St. Charles Fire Department hazardous materials team trained with MABAS division 13 team members. The training was hosted by the Elburn Fire Department and involved a full dress out response with decontamination. Members simulated a hazardous materials leak and a MABAS response was initiated just was it would on an actual call out.

The Tactical Emergency Medical team (TEMS) trained with the St. Charles Police TRU and the Kane County Sheriff's police TRU. Tactical members received instruction on railway safety and rail car construction. The training was taught by personnel from the BNSF (Burlington Northern Santa Fe) security and maintenance divisions. Following the lecture on railroad safety, tactical personnel traveled to the BNSF rail yard in Aurora to practice commuter rail car assaults in hostage and barricaded subject situations. Medical personnel worked on positioning in order to best respond to victim or officer down situations.

The St. Charles Underwater Rescue and Recovery team was able to get in the river and train on search patterns, line tending and documentation involved in dive rescue incidents. This is potentially a very dangerous training exercise in that divers are working in a zero visibility environment with multiple unknown submerged hazards and current, all while breathing compressed air at depth. The safety of the divers is the main concern in any type of underwater rescue attempt. Safety is stressed and multiple backups are always in place to come to the aid of a diver in distress. In addition to the benefit of practice, divers helped to make the river safer for all, by finding and removing five bicycles from the water. Discarded materials like this make for entanglement hazards that could cause injury or death to people using the river for recreation.

As warm weather approaches, firefighters will adjust their training to include acclimation to the heat as well as proper hydration during training sessions. Heat exertion and heat related injuries are always a concern to the firefighter dressed in cumbersome gear while working. As always, firefighters will continue to train in all types of rescue situations in all types of weather so as to better serve the citizens of our community.

History of Fire Engines, cont'd.

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with two pieces of apparatus -- a steamer and a hose wagon.

The size and weight of horse-drawn apparatus had grown to the point where most horses running at top speed would begin to slow down after about a half-mile. Studies indicated that a motorized fire company could be operated at about one-third the cost of a similar horse-drawn unit. Like the introduction of steam pumpers, motorized fire apparatus was seen as a threat. Looked at as unreliable, subject to mechanical breakdown and unable to replace the beloved horses, it took several decades for the changeover to take place nationwide.

The year 1906 is generally accepted as the beginning of the motorized age in the American fire service. During that year, a pumper built by Waterous entered service with the Radnor Fire Company in Wayne, PA. This vehicle was equipped with two gasoline motors, one for propelling the vehicle and the other to power the pump. The introduction of motorized vehicles revolutionized the fire service. Although there was some experimentation with both electric and steam propelled vehicles, gasoline propelled vehicles would replace the horses.

Waterous Pumper

Another offshoot of motorization was the development of a single piece of apparatus, the triple-combination pumper that would eventually become the standard apparatus for most engine companies throughout the country. Until that time, most engine companies operated with two distinct apparatus, a steamer and either a hose wagon or combination hose wagon equipped with chemical extinguishment equipment.

St. Charles Fire Department 1916 DeKalb combination hose wagon and chemical fire truck.

The triple-combination pumper incorporated all of these functions onto one motorized vehicle. The first such vehicle was constructed by Tea Tray Company, a small New Jersey builder in 1909, on an American Motors chassis and delivered to Middletown, NY.

St. Charles Fire Department 1928 Ahrens Fox

Ahrens-Fox introduced an unconventional pumper in 1911. Instead of the conventional design of the time with the engine forward and the pump located under or to the rear of the driver's seat, Ahrens-Fox located its piston pump, characterized by a large chrome ball atop the pump, at the very front of the vehicle, ahead of the motor. These vehicles became known as reliable workhorses that served for years.

While newly built motorized apparatus were delivered, during the early years of motorization a large amount of horse-drawn apparatus was motorized by the addition of two-, three- and four-wheel tractors, making for some unusual appearing vehicles. Probably the most popular of these were Christie two-wheel tractors, introduced in 1912. Almost 600 of these units were produced. This practice, which lasted about 10 years, was a much cheaper alternative for departments wanting to rapidly motorize their fleets without the expense of purchasing all new apparatus.

By the early 1920's, pneumatic tires were appearing on fire apparatus. This greatly improved the ride over previously used solid-rubber tires, as well as the many still-in-service converted horse-drawn units with metal or wood wheels. At the same time, a new type of apparatus, the quad, began to appear. Many departments at this time operated city service trucks. These were trucks that carried portable ladders and other equipment normally carried by ladder companies, but was not equipped with aerial ladders. These vehicles could be either straight frame or tractor-drawn.

The quad combined the functions of the triple-combination pumper, but was constructed on a stretched chassis capable of carrying the equipment normally carried on

History of Fire Engines, cont'd.

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the city service truck as well. These units were usually operated by engine companies in lightly developed areas where the height of buildings did not call for an aerial ladder or in areas that were a distance from the nearest ladder company. The quad permitted fire departments to provide limited ladder company functions while saving on manpower and equipment costs.

Although some of the earliest motorized fire apparatus were constructed on commercially available chassis, the vast majority were built by fire apparatus manufacturers on their own custom-built chassis. A trend began to appear in the early 1920's when many commercial vehicle manufacturers started to make their chassis available to fire apparatus manufacturers to mount their bodywork on. This permitted smaller apparatus manufacturers to specialize in compartmentation bodywork design and firefighting capabilities while utilizing available vehicle chassis.

Another milestone in fire apparatus development occurred during 1928, when Pirsch delivered what was probably the first American fire apparatus with an enclosed, custom-built cab. The majority of fire apparatus up to this time were constructed with open cabs, primarily for visibility and size-up when approaching the fire scene and to assist in positioning the apparatus. These cabs were also doorless, to allow firefighters in the cab to spring into action as soon as they arrived. While over 30 years would pass before the enclosed cab became standard, this unit was a first big step.

Apparatus delivered through the 1920's were equipped with right-hand or left-hand drive, depending on the preference of the manufacturer or individual department. By the end of the 1920's, left-hand steering was becoming standard.

Factory-installed windshields became popular on fire apparatus during the early 1930's. Once considered unnecessary, windshields offered a degree of protection from the elements, as well as allowing the driver to see more safely by not having to squint constantly because of wind hitting his unprotected face.

A limited movement toward fully enclosed apparatus took place in the mid-1930's. Several pumper designs were introduced that provided enclosed riding positions for all firefighters. While this was a significant safety development, the concept was ahead of its time and met the usual fire service doubt and skepticism.

Fire apparatus became somewhat enclosed in the late 1930's, with the introduction of half doors to open-cab models. These doors offered a better degree of protection to those in the cab while affording the maximum visibility provided by the open cab.

The next revolution in fire apparatus design was the introduction of the cab-forward chassis by American LaFrance in 1939. These vehicles had their cab positioned ahead of the engine instead of behind it as in the conventional design. Cab-forward chassis would eventually be used for the majority of custom-built apparatus by almost all manufacturers. This design provided much better visibility for the driver while also having a better turning radius.

Early cab forward design

Another innovation introduced to the fire service in 1939 was the diesel engine. The first diesel powered pumper was built by the New Stutz Fire Engine Company, utilizing a Cummins diesel engine. Eventually, every piece of fire apparatus constructed in the United States would utilize diesel power, but widespread use of the diesel would not take place until the 1960's.

Another new type of apparatus would appear in the late 1930's. Known as the quint, this apparatus added a fifth function, an aerial ladder, to the quad. This vehicle was utilized in the same capacity as the quad, to provide a degree of ladder company functions in less active areas that were remote from conventional ladder companies.

Some major developments came out of World War II. Probably most notable among these were purpose-built airport crash apparatus. These resulted primarily from the development of larger military aircraft, and they were produced in large num-

History of Fire Engines, cont'd.

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bers. After the war, many were put to use at newly developing civilian airfields. Advances in two-way radio technology also resulted from the war, and it wasn't long before fire departments realized the great advantages that two-way radio communications afforded.

An automatic transmission was introduced for fire service use by Mack in 1957. It would take another decade before automatic transmissions made in-roads within the fire apparatus industry. Today, it is a very rare exception to have an apparatus built with a standard transmission.

The late 1950's also saw the introduction of the air horn on fire apparatus. This was a natural extension of the pneumatic brake systems that were becoming popular. The air horn added to the audible warning capability of apparatus, and many feel, ultimately led to the elimination of the bell.

Electronic sirens began to appear on fire apparatus during the early 1960's. At first, they were installed in addition to the older, louder mechanical sirens. In some cases they replaced the mechanical sirens. Today, the old-style mechanical siren is making a comeback, to supplement the quieter electronic models. Over the years, improvements in automobile soundproofing, coupled with auto entertainment systems, have severely limited the effectiveness of electronic sirens.

In the mid-1960's, major cities throughout the nation experienced episodes of violent civil unrest. Riots and the resulting fires severely overtaxed fire departments, but worse, firefighters and their apparatus became targets. Fire apparatus were bombarded with bricks, bottles, firebombs and gunshots. Firefighters were killed and injured. Most apparatus in service at the time were open-cab models, with equipment carried on running boards and other exposed locations, available for rapid use. Inner-city fire companies reacted by constructing makeshift cabs, roof enclosures over the back steps, enclosed tiller seats and even individual personnel enclosures that resembled telephone booths on the apparatus. Some strange-looking apparatus resulted. These events, more than any other single factor, led to the design of crew cabs, where all firefighters rode in enclosed positions, and compartmentation, to carry all tools inside locked compartments.

St. Charles joined the lime green trend in 1975.

In the early 1970's, Ward LaFrance created what was probably the most controversial issue ever to hit the apparatus field. By aggressively marketing a new color for fire apparatus, lime green, as being more visible and therefore safer, a wedge was driven into the fire service. Traditionalists stood behind the old standard red, while "progressive" fire service personnel preached the advantages of the new color. At one point, there were actually more apparatus being delivered in the new color than the traditional red. Many fire departments, both large and small, switched to the new color. But after about a decade, departments began to switch back to red. Many apparatus were repainted. Virtually every large department that had gone to the new color returned to red. Currently, few new apparatus are being delivered that are painted lime green.

Ever increasing concern for firefighter safety led to the introduction of larger, enclosed cabs that were capable of accommodating more firefighters inside. In 1984, Spartan introduced a Super Command Cab that had seating for two and full stand-up height. Other manufacturers followed suit.

Increasing demand for medical services provided by fire departments sometimes overtaxed available resources. Many solutions have been put into operation. Some departments have modified pumpers to carry an extensive array of advanced life support equipment. A handful of departments have placed pumpers into service that have patient transport capability.

STCFD's first fully enclosed engine

Revised National Fire Protection Association (NFPA) standards in 1991 had a huge impact on fire apparatus design. All firefighters were required to ride in enclosed, seated positions that were equipped with seat belts. While the fire service had been moving to-

History of Fire Engines, cont'd.

(Continued from page 10)

wards fully enclosed crew cab apparatus for some time, these standards solidified this movement. Several federal laws and mandates also had an impact on fire apparatus design. Engine size, vehicle emissions, axle loading, anti-lock brake systems and other standards have all added to the cost of fire apparatus production, helping to triple the cost of custom-built vehicles over the last two decades, and leading to greater use of commercially available chassis.

The development of multi-function vehicles has become more popular in recent years. The primary cause of this in both paid and volunteer departments has been insufficient staffing. Departments have been attempting to provide more functions with fewer apparatus. These vehicles are usually larger and bulkier, and are generally built on three-axle chassis. Pumper-tankers, rescue-pumpers, hazmat pumpers and paramedic pumpers are becoming popular.

Modern fire engines are built to accommodate more and more functions from EMS capabilities to response to homeland security incidents. In St. Charles, we have responded to those responsibilities and now have three front-line, advanced life support engines, as well as a heavy rescue squad, a frontline and reserve aerial ladder truck, teams with specialized training, and state of the art ambulances. And soon to be joining the fleet is the new Engine 102, currently being readied for service.

Coming Soon....

Our Frontline Fleet

Engine 101

Engine 102

Engine 103, currently being refurbished

Squad 101

Tanker 101, scheduled for replacement in fall 2006

Truck 101